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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/822,359

04/12/2004

David G. King

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LEXMARK INTERNATIONAL, INC.

INTELLECTUAL PROPERTY LAW DEPARTMENT

740 WEST NEW CIRCLE ROAD

BLDG. 082-1

LEXINGTON, KY 40550-0999

EXAMINER

MARTIN, LAURA E

ART UNIT

PAPER NUMBER

2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/822,359

Applicant(s)

KING ET AL.

Examiner

Laura E. Martin

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2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Murray et al. (US 6435676 B1).

Murray et al. disclose the following claim limitations:

As per claim 1: a housing having an array of nozzles (figure 3, element 74); and said housing including a printhead memory (figure 3, element 49 and column 4, lines 34-56) containing data pertaining to said nozzles of said array (column 12, line 53 – column 13, line 6).

As per claim 6: providing a printhead having a housing including an array of nozzles (figure 3, element 74) and a printhead memory (figure 3, element 49 and column 4, lines 34-56); and storing data pertaining to said nozzles of said array in said printhead memory (column 12, line 53 – column 13, line 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5, 7-11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. (US 6435676 B1) in view of Bruch et al. (US 6517184 B1).

Murray et al. disclose the following claim limitations:

As per claims 9 and 15: providing a printhead having a housing including an array of nozzles (figure 3, element 74) and a printhead memory (figure 3, element 49 and column 4, lines 34-56) storing data pertaining to said nozzles of said array (column 12, line 53 – column 13, line 6).

Murray et al. do not disclose the following claim limitations:

A printhead and a method of making a printhead wherein said data includes a location of at least one missing or malfunctioning nozzle of said array; a printhead and a method of making a printhead wherein said data includes at least one of a status or a location of said nozzles of said array; a printhead wherein said printhead is adapted to be installed into a printer having firmware capable of reading said data from said printhead memory; a printhead wherein said printer is adapted to use said data to format print jobs; method of making a printer further comprising the step of installing said printhead into a printer having firmware capable of reading said printhead memory; a method of making a printer wherein said firmware reads said printhead memory and a formatter formats a print job based on said data pertaining to said nozzles; a method of

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making a printer wherein said storing step includes storing a location of missing or malfunctioning nozzles using an operator performing a standard functional test; and a method of making a printer wherein said storing step includes storing a location of missing or malfunctioning nozzles using an automated detection system.

Bruch et al. disclose the following claim limitations:

As per claims 2, 7, and 9, Bruch et al. teach a printhead and a method of making a printhead wherein said data includes a location of at least one missing or malfunctioning nozzle of said array (column 17, lines 39-48; table 3).

As per claims 3 and 8, Bruch et al. teach a printhead and a method of making a printhead wherein said data includes at least one of a status or a location of said nozzles of said array (column 17, lines 39-48; table 3).

As per claim 4, Bruch et al. teach a printhead wherein said printhead is adapted to be installed into a printer having firmware capable of reading said data from said printhead memory (column 14, lines 47-51).

As per claim 5, Bruch et al. teach a printhead wherein said printer is adapted to use said data to format print jobs (column 14, line 63- column 15, line 5).

As per claim 9, Bruch et al. teach a method of making a printer comprising the steps of: providing a printhead having a housing (figure 4, element 400) including an array of nozzles (figure 4, element 410) and a printhead memory; and storing data pertaining to said nozzles of said array in said printhead memory, wherein said data

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pertaining to said nozzles of said array includes a status and location of at least one missing or malfunctioning nozzle (column 17, lines 39-48; table 3).

As per claim 10, Bruch et al. teach a method of making a printer further comprising the step of installing said printhead into a printer having firmware capable of reading said printhead memory (column 14, lines 47-51).

As per claims 11 and 15, Bruch et al. teach a method of making a printer wherein said firmware reads said printhead memory and a formatter formats a print job based on said data pertaining to said nozzles (column 14, line 63- column 15, line 5).

As per claim 13, Bruch et al. teach a method of making a printer wherein said storing step includes storing a location of missing or malfunctioning nozzles using an operator performing a standard functional test (column 14, lines 45-46).

As per claim 14, Bruch et al. teach a method of method of making a printer wherein said storing step includes storing a location of missing or malfunctioning nozzles using an automated detection system (column 3, lines 13-28).

As per claim 15, Bruch et al. teach a printhead comprising: a housing (figure 4, element 400) having an array of nozzles (figure 4, element 410); said housing including a printhead memory containing data pertaining to at least a location and status of at least one missing or malfunctioning nozzle of said array (column 17, lines 39-48; table 3); and wherein said printhead is adapted to be installed into a printer having firmware (column 14, lines 47-51) capable of reading said data from said printhead memory and

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passing said data to a formatter for formatting print jobs according to said data (column 14, line 63-column 14, line 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printhead and methods taught by Purcell with the disclosure of Bruch et al. in order to create a higher quality printer that prints high quality images.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. (US 6435676 B1) in view of Bruch et al. (US 6517184 B1), and further in view of Kojima (US 6719391 B2).

Murray et al. disclose the following claim limitations:

Murray et al. teach a method of making a printer

Murray et al. do not disclose the following claim limitations:

A method wherein said data pertaining to said nozzles includes a location of at least one missing or malfunctioning nozzle and said printer compensates for said at least one missing or malfunctioning nozzle by shingling.

Kojima teaches the following claim limitations:

Kojima teaches a method wherein said data pertaining to said nozzles includes a location of at least one missing or malfunctioning nozzle and said printer compensates for said at least one missing or malfunctioning nozzle by shingling (column 9, lines 10-37).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Purcell as modified with the method taught by Kojima in order to provide for a higher quality printed image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin


MANISH S. SHAH
PRIMARY EXAMINER 4/12/07